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| LEONARD T. GUZMAN              |             |                      | EXAMINER            |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

## Application No.

10/692,025

## Applicant(s)

YI ET AL.

## Examiner

MICHAEL C. COLUCCI

## Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2009.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 10, 12 and 14-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 10, 12, and 14-17 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments filed 05/19/2009 have been fully considered but they are not persuasive.

**NOTE:** Examiner would like to remind Applicant of the following:

*"USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim*

*scope be removed, as much as possible, during the administrative process.”).*

*Where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim. Toro Co. v. White Consolidated Industries Inc., 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) (meaning of words used in a claim is not construed in a “lexicographic vacuum, but in the context of the specification and drawings.”). Any special meaning assigned to a term “must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention.” Multiform Desiccants Inc. v. Medzam Ltd., 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). See also MPEP § 2111.01.”*

Boguraev explicitly teaches the identification of a *subject of interest*, part of speech tags, parsing (Fig. 2 item 204), relationships between elements in a sentence, as well as the identification of all others parts of a sentence such surrounding text (i.e. context), wherein Boguraev teaches characterizing the content of a document in accordance with the present invention. As is seen in the figure, first a list of discourse referents are provided within the document via step 202. Then, the document is divided into separate segments based upon changes in topic, via step 204. Thereafter, the discourse referents are linked together into co-reference classes, via step 206. Next, the salience for each of the discourse referents is calculated, via step 208. After those calculations are performed, then it is determined which discourse referents have the highest

values within a segment, via step 210. The core information unit that the invention concerns itself with is the set of discourse referents in a document. Discourse referents are typically realized as noun phrases. In essence, these are the entities--actors and objects--around which a story unfolds. In order to determine, and maintain, an accurate model of what a document is about, it is necessary to be able to identify the ways in which the same entity is referred to in the text, as well as to establish co-referentiality among different 'mentions' in the text of the same entity. The sample document in Table 1 provides examples of the same entity being referred to in different ways in the text ("Priest", "a Spanish Priest", "Fernandez", and "he", in the second paragraph, all refer to the same person), as well as of different entities being referred to by the same text string ("he" in the first paragraph refers to the Pope, while "he" in the second paragraph refers to the priest). Thereafter, discourse referents with the highest salience values are labeled as topic stamps, via step 212. The local contexts around each of the topic stamps are identified, via step 214. Finally, from this information a capsule overview of the document is constructed with a given degree of granularity via step 216. A key concept associated with generation of the capsule overviews is the calculation of salience values for the discourse referents, which are then used for determining topic stamps in the document. (Boguraev Col. 9 lines 9-29 and Fig. 2 & the passage of Fig. 3).

Further, Boguraev teaches improved topic of interest identification, wherein discourse information is associated with the stamps "Gilbert Amelio" and "new operating system". The reasons, and linguistic rationale, for the selection of these particular noun phrases as topical are essentially identical to the intuition behind "priest" and "Pope attack" being the central topics of the example in Table 1. The computational justification for the choices lies in the extremely high values of salience, resulting from taking into account a number of factors: co-referentiality between "Amelio" and "Gilbert Amelio", co-referentiality between "Amelio" and "His", syntactic prominence of "Amelio" (as a subject) promoting topical status higher than for instance "Apple" (which appears in adjunct positions), high overall frequency (four, counting the anaphor, as opposed to three for "Apple"--even if the two get the same number of text occurrences in the segment), and boost in global salience measures, due to "priming" effects of both referents for "Gilbert Amelio" and "operating system" in the prior discourse of the two preceding segments. Compared to a single phrase summary in the form of, say, "Amelio seeks a new operating system", the overview for the closing segment comes close; arguably, it is even better than any single phrase summary (Boguraev Col. 10 line 59 – Col. 11 line 14).

**Argument 1 (page 11 paragraph 2):**

- "In particular, Boguraev and Chase, alone or in combination, fail to teach or suggest "for each sentence referring to a feature term, determining

whether the sentence includes an opinion polarity about the feature term",  
as required by claim 10"

**Argument 2 (page 12 paragraph 2):**

- "In particular, Boguraev and Chase, alone or in combination, fail to teach or suggest "for each sentence referring to the subject, determining whether the sentence includes an opinion polarity about the subject", as required by claim 10."

**Argument 3 (page 12 paragraph 3):**

- "Further, Boguraev and Chase, alone or in combination, fail to teach or suggest "identifying opinion terms in the sentence using an opinion dictionary, each entry in the dictionary having an opinion term, a part-of-speech tag, and an associated opinion polarity", as required by claim 10."

**Argument 4 (page 14 paragraph 1):**

- "In addition, Boguraev and Chase, alone or in combination, fail to teach or suggest "identifying an opinion polarity associated with said feature term using the opinion dictionary," as required by claim 10."

**Response to arguments:**

Chase has been incorporated to explicitly address the identification of an opinion polarity about terms within a text passage, phrase, clause, sentence etc. Chase teaches a database wherein each record in the data base 12, one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech (Chase Col. 7 lines 23-34). Chase further improves said context within said database by implementing identification of the emotional (i.e. negative, positive, polarity, etc.), wherein Chase explicitly identifies the topic of interest or summary of a document and classifies various parts of speech of a passage (noun, verb, adjective, etc.) as an opinion polarity (i.e. positive or negative). Chase explicitly depicts the emotional connotation of parts of speech within text (Chase Fig. 6 & 7).

Chase also explicitly teaches a user interface for identifying topics of interest of discourse in reference to said database (Chase Col. 11 lines 1-35). However, Chase improves this interface by incorporating emotional categorizing of discourse terms in text whereby a system *evaluates the passage for positive emotional connotations, negative emotional connotations, global emotional connotations, human interest, connotations of power, connotations of activity and connotations of abstractness/concreteness* (Chase Abstract). Chase teaches an interface where the high level information of FIG. 5 includes a rating of the passage for emotional content in terms of positive emotion, negative emotion and



global emotion (i.e., positive not distinct from negative emotion). The high level information also includes a rating of the passage for human interest by words, sentences and global content. a rating of the passage for power, a rating of the passage for activity and a rating of the passage along a scale of abstractness versus concreteness. Emotional content of the passage is derived by counting the number of emotional connotations associated with all the terms in the passage. Each term in the passage corresponds to 0 or one record in the database. Each record in the database 12 has at least one connotative field for each one of a plurality of emotional categories. For an embodiment where only one emotional descriptor is associated with a record per emotional category, there can be 0 to n emotional connotations per record (or per term in the passage), where n corresponds to the number of emotional categories. In some embodiments there are two connotative fields per emotional category. In such embodiment there can be 0 to 2n emotional connotations per record or per term in the passage. A rating of global emotion is a cumulative count of the total number of emotional connotations for all terms of the passage. The emotional connotations stored for each term in the database are associated with either a positive emotional category or a negative emotional category. Thus, the global count can be divided to rate the passage for positive emotions and for negative emotions. Referring again to FIG. 5 a bar graph 70 is displayed indicating the positive emotion rating of the passage. Further, the global count can be broken down more finely by emotional category. FIG. 5 shows the negative emotions

separated into the categories of negative emotions with a bar graph 71 displayed for each category (Chase Col. 11 line 45 – Col. 12 line 16 & Fig. 5).

It is thus obvious to claim the identification of an opinion polarity about a subject or feature term, as well as a dictionary/lexicon/database containing an opinion term, a part-of-speech tag, and an associated opinion polarity, wherein Chase improves upon the teachings of Boguraev to allow for various fields within a dictionary (i.e. meaning, context, parts of speech) (Chase Col. 7 lines 23-34), wherein stored emotional content is defined as 0 to n emotional connotations per record (or per term in the passage) whereby emotional connotations stored for each term in the database are associated with either a positive emotional category or a negative emotional category and displayed graphically (Chase Col. 11 line 45 – Col. 12 line 16 & Fig. 5-7).

**Argument 5 (page 13 paragraph 2):**

- "In addition, Boguraev and Chase, alone or in combination, fail to teach or suggest "for each sentence having a feature term and an opinion term, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components," as required by claim 10."

**Response to argument 5:**

Boguraev explicitly teaches the identification of a *subject of interest*, part of speech tags, parsing (Fig. 2 item 204), relationships between elements in a sentence, as well as the identification of all others parts of a sentence such surrounding text (i.e. context), wherein Boguraev teaches characterizing the content of a document in accordance with the present invention. As is seen in the figure, first a list of discourse referents are provided within the document via step 202. Then, the document is divided into separate segments based upon changes in topic, via step 204. Thereafter, the discourse referents are linked together into co-reference classes, via step 206. Next, the salience for each of the discourse referents is calculated, via step 208. After those calculations are performed, then it is determined which discourse referents have the highest values within a segment, via step 210. The core information unit that the invention concerns itself with is the set of discourse referents in a document. Discourse referents are typically realized as noun phrases. In essence, these are the entities--actors and objects--around which a story unfolds. In order to determine, and maintain, an accurate model of what a document is about, it is necessary to be able to identify the ways in which the same entity is referred to in the text, as well as to establish co-referentiality among different 'mentions' in the text of the same entity. The sample document in Table 1 provides examples of the same entity being referred to in different ways in the text ("Priest", "a Spanish Priest", "Fernandez", and "he", in the second paragraph, all refer to the same person), as well as of different entities being referred to by the same text string

("he" in the first paragraph refers to the Pope, while "he" in the second paragraph refers to the priest). Thereafter, discourse referents with the highest salience values are labeled as topic stamps, via step 212. The local contexts around each of the topic stamps are identified, via step 214. Finally, from this information a capsule overview of the document is constructed with a given degree of granularity via step 216. A key concept associated with generation of the capsule overviews is the calculation of salience values for the discourse referents, which are then used for determining topic stamps in the document. (Boguraev Col. 9 lines 9-29 and Fig. 2 & the passage of Fig. 3).

Further, Boguraev teaches improved topic of interest identification, wherein discourse information is associated with the stamps "Gilbert Amelio" and "new operating system". The reasons, and linguistic rationale, for the selection of these particular noun phrases as topical are essentially identical to the intuition behind "priest" and "Pope attack" being the central topics of the example in Table 1. The computational justification for the choices lies in the extremely high values of salience, resulting from taking into account a number of factors: co-referentiality between "Amelio" and "Gilbert Amelio", co-referentiality between "Amelio" and "His", syntactic prominence of "Amelio" (as a subject) promoting topical status higher than for instance "Apple" (which appears in adjunct positions), high overall frequency (four, counting the anaphor, as opposed to three for "Apple"--even if the two get the same number of text occurrences in the

segment), and boost in global salience measures, due to "priming" effects of both referents for "Gilbert Amelio" and "operating system" in the prior discourse of the two preceding segments. Compared to a single phrase summary in the form of, say, "Amelio seeks a new operating system", the overview for the closing segment comes close; arguably, it is even better than any single phrase summary (Boguraev Col. 10 line 59 – Col. 11 line 14).

Chase has been incorporated to explicitly address the identification of an opinion polarity about terms within a text passage, phrase, clause, sentence etc. Chase teaches a database wherein each record in the data base 12, one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech (Chase Col. 7 lines 23-34). Chase further improves said context within said database by implementing identification of the emotional (i.e. negative, positive, polarity, etc.), wherein Chase explicitly identifies the topic of interest or summary of a document and classifies various parts of speech of a passage (noun, verb, adjective, etc.) as an opinion polarity (i.e. positive or negative). Chase explicitly depicts the emotional connotation of parts of speech within text (Chase Fig. 6 & 7).

Chase also explicitly teaches a user interface for identifying topics of interest of discourse in reference to said database (Chase Col. 11 lines 1-35). However,

Chase improves this interface by incorporating emotional categorizing of discourse terms in text whereby a system *evaluates the passage for positive emotional connotations, negative emotional connotations, global emotional connotations, human interest, connotations of power, connotations of activity and connotations of abstractness/concreteness* (Chase Abstract). Chase teaches an interface where the high level information of FIG. 5 includes a rating of the passage for emotional content in terms of positive emotion, negative emotion and global emotion (i.e., positive not distinct from negative emotion). The high level information also includes a rating of the passage for human interest by words, sentences and global content. a rating of the passage for power, a rating of the passage for activity and a rating of the passage along a scale of abstractness versus concreteness. Emotional content of the passage is derived by counting the number of emotional connotations associated with all the terms in the passage. Each term in the passage corresponds to 0 or one record in the database. Each record in the database 12 has at least one connotative field for each one of a plurality of emotional categories. For an embodiment where only one emotional descriptor is associated with a record per emotional category, there can be 0 to n emotional connotations per record (or per term in the passage), where n corresponds to the number of emotional categories. In some embodiments there are two connotative fields per emotional category. In such embodiment there can be 0 to 2n emotional connotations per record or per term in the passage. A rating of global emotion is a cumulative count of the total

number of emotional connotations for all terms of the passage. The emotional connotations stored for each term in the database are associated with either a positive emotional category or a negative emotional category. Thus, the global count can be divided to rate the passage for positive emotions and for negative emotions. Referring again to FIG. 5 a bar graph 70 is displayed indicating the positive emotion rating of the passage. Further, the global count can be broken down more finely by emotional category. FIG. 5 shows the negative emotions separated into the categories of negative emotions with a bar graph 71 displayed for each category (Chase Col. 11 line 45 – Col. 12 line 16 & Fig. 5).

It is thus obvious to claim the identification of an opinion polarity about a subject or feature term, as well as a dictionary/lexicon/database containing an opinion term, a part-of-speech tag, and an associated opinion polarity, wherein Chase improves upon the teachings of Boguraev to allow for various fields within a dictionary (i.e. meaning, context, parts of speech) (Chase Col. 7 lines 23-34), wherein stored emotional content is defined as 0 to n emotional connotations per record (or per term in the passage) whereby emotional connotations stored for each term in the database are associated with either a positive emotional category or a negative emotional category and displayed graphically (Chase Col. 11 line 45 – Col. 12 line 16 & Fig. 5-7).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10, 12, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boguraev et al. US 6185592 B1 (hereinafter Boguraev) in view of Chase US 6332143 B1 (hereinafter Chase).

Re claim 10, Boguraev teaches a method for extracting opinions about a subject of interest from a text document having a plurality of sentences, the subject associated with a plurality of features (Col. 10 line 19 - Col. 11 line 26), the method comprising:

extracting from the document feature terms (Col. 5 lines 1-8) related to the features most relevant to the subject (Col. 10 line 19 - Col. 11 line 26);

for each sentence referring to a feature term (Col. 10 line 19 - Col. 11 line 26), determining whether the sentence includes an opinion polarity about the feature term; an

for each sentence referring to the subject (Col. 10 line 19 - Col. 11 line 26), determining whether the sentence includes an opinion polarity about the subject,



wherein the determining comprises identifying opinion terms in the sentence using an opinion dictionary, each entry in the dictionary having an opinion term, a part-of-speech tag, and an associated opinion polarity,

for each sentence having a feature term and an opinion term, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components (Col. 10 line 19 - Col. 11 line 26), and identifying an opinion polarity associated with said feature term using the opinion dictionary

However, Boguraev fails to teach determining whether the sentence includes an opinion polarity about the feature term

identifying opinion terms in the sentence using an opinion dictionary, each entry in the dictionary having an opinion term, a part-of-speech tag, and an associated opinion polarity

identifying an opinion polarity associated with said feature term using the opinion dictionary

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a

given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 41 lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate determining whether the sentence includes an opinion polarity about the feature term, identifying opinion terms in the sentence using an opinion dictionary, each entry in the dictionary having an opinion term, a part-of-speech tag, and an associated opinion polarity, identifying an opinion polarity associated with said feature term using the opinion dictionary as taught by Chase to allow for various fields within a dictionary (i.e. meaning, context, parts of speech) (Chase Col. 7 lines 23-34), wherein stored emotional content is defined as 0 to n emotional connotations per record (or per term in the passage) whereby emotional connotations stored for each term in the database are associated with either a positive emotional category or a negative emotional category and displayed graphically (Chase Col. 11 line 45 – Col. 12 line 16 & Fig. 5-7).

Re claim 12, Boguraev fails to teach the method as recited in claim 10, wherein the opinion polarity associated with the feature term is identified based on an opinion rule.

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or

phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors

being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 4I lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate the opinion polarity associated with the feature term is identified based on an opinion rule as taught by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to one another allows for the proper identification of emotion/opinion of a document (Chase Col. 4I lines 9-36).

Re claim 14, Boguraev fails to teach the method as recited in claim 12, wherein the rule base comprises a plurality of rules each having a relationship term, a target of the opinion, and a polarity of the opinion.

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts,

then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 41 lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate the rule base comprises a plurality of rules each having a relationship term, a target of the opinion, and a polarity of the opinion as taught by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to one another allows for the proper identification of emotion/opinion of a document (Chase Col. 41 lines 9-36).

Re claim 15, Boguraev fails to teach the method as recited in claim 12, wherein the rule base comprises a plurality of rules each having a relationship term, a source of the opinion, and a target of the opinion.

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 41 lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).



Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate the rule base comprises a plurality of rules each having a relationship term, a source of the opinion, and a target of the opinion as taught by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to one another allows for the proper identification of emotion/opinion of a document (Chase Col. 41 lines 9-36).

Re claim 16, Boguraev fails to teach the method as recited in claim 15, wherein the target of the opinion is a component of the sentence to which the opinion is to be assigned.

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the

English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 4I lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate the target of the opinion is a component of the sentence to which the opinion is to be assigned as taught

by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to one another allows for the proper identification of emotion/opinion of a document (Chase Col. 41 lines 9-36).

Re claim 17, Boguraev fails to teach the method as recited in claim 15, wherein the source of the opinion is a component of the sentence of which opinion polarity is to be assigned to the target.

Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

Further, Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative

emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors--the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors--the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 4l lines 9-36 & Fig. 4-7).

Furthermore, Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate the source of the opinion is a component of the sentence of which opinion polarity is to be assigned to the target as taught by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to

one another allows for the proper identification of emotion/opinion of a document (Chase Col. 4I lines 9-36).

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Colucci whose telephone number is (571)-270-1847. The examiner can normally be reached on 9:30 am - 6:00 pm, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)-272-7602. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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